

What is claimed is:

1. An ambulatory robot including a lower body part having two or more legs and an upper body part installed on an upper end of the lower body part and capable of performing positional displacement by moving the lower body part, the ambulatory robot comprising:

slope-detection means for sensing a slope of a floor;

rotating means installed on a bottom surface of each of the two or more legs; and

control means for controlling a motion of the ambulatory robot using the lower and upper body parts, wherein the control means controls a speed of revolution of the rotating means based on the slope of the floor, and controls the motion of the ambulatory robot so that the positional displacement of the ambulatory robot is performed by any of running, walking and sliding, depending on the controlled speed of revolution.

2. The ambulatory robot as claimed in claim 1, further comprising:  
decelerating means for slowing the speed of revolution of the rotating means, wherein the control means controls the decelerating means thereby controlling the speed of revolution of the rotating means.

3. The ambulatory robot as claimed in claim 2, wherein the control means controls the decelerating means so that the speed of revolution slows to zero when the slope of the floor sensed by the slope-detection means is greater than a first preset angle.

4. The ambulatory robot as claimed in claim 3, wherein the control means controls the motion of the ambulatory robot so that the positional displacement of the ambulatory robot is performed by walking when the speed of revolution equals zero.

5. The ambulatory robot as claimed in claim 3, wherein the control means controls the motion of the ambulatory robot so that the positional displacement of the ambulatory robot is performed by sliding when

the slope of the floor sensed by the slope-detection means is less than the first preset angle but not less than a second preset angle.

6. The ambulatory robot as claimed in claim 3, wherein the rotating means comprises two or more wheels.

7. A method for controlling an ambulatory robot, the ambulatory robot including a lower body part having two or more legs and an upper body part installed on an upper end of the lower body part and performing positional displacement by moving the lower body part, the method comprising:

sensing a slope of a floor;

controlling a speed of revolution of a rotating means that is installed on a bottom surface of each of the two or more legs based on the slope of the floor; and

controlling a motion of the ambulatory robot using the upper and lower body parts so that the positional displacement of the robot is

performed by any of running, walking or sliding, depending on the controlled speed of revolution.

8. The method as claimed in claim 7, wherein controlling the speed of revolution comprises:

slowing the speed of revolution of the rotating means while the rotating means is rotating.

9. The method as claimed in claim 8, wherein controlling the speed of revolution comprises:

slowing the speed of revolution so that the speed of revolution slows to zero when the slope of the floor sensed in the step of sensing the slope is greater than a first preset angle.

10. The method as claimed in claim 9, wherein controlling the speed of revolution controls the motion of the ambulatory robot so that the positional displacement of the ambulatory robot is performed by walking when the speed of revolution equals zero.

11. The method as claimed in claim 9, wherein controlling the speed of revolution controls the motion of the ambulatory robot so that the positional displacement of the ambulatory robot is performed by sliding when the slope of the floor sensed by the slope-detection means is less than the first preset angle but greater than a second preset angle.

12. The method as claimed in claim 9, wherein the rotating means comprises two or more wheels.